TAB AA-1-4
PROTECTIVE ACTIONS

I. SITUATION AND ASSUMPTIONS

A. The procedures to be used for establishing protective actions are set forth in the SOP of the Cabinet for Health Services (CHS), Radiation Health and Toxic Agents Branch.

B. These procedures will be used in response to a nuclear incident to minimize contamination.

II. MISSION

The mission for this tab is to provide protective actions to use when dealing with nuclear weapons.

III. DIRECTION AND CONTROL

Direction and Control will be provided by the Marshall County Emergency Management Director.

IV. CONCEPT OF OPERATIONS

A. Two different populations at risk will have to be combined when dealing with a nuclear weapon – those at risk from direct effects, and those at risk from indirect effects.

1. Direct effects include blast, fire, and initial radiation.

2. Indirect effects include radioactive fallout and electromagnetic pulse.

B. Types of Protective Action are:

1. Evacuation

2. In Place Shelter

3. Access Control

4. Agriculture Product Control

The type of protective action recommended must consider time, distance and shielding.

C. Evacuees will be moved beyond the projected 2 pound per square inch blast over pressure shock wave and/ or contaminated area, whichever is greater,

resulting from the weapon explosion.

D. Evacuees will be sheltered in conformity with Marshall County's or surrounding counties' Emergency Operations Plan (s). A wide variety of protective actions are available that can be used to reduce, or eliminate the effects of radiation and contamination. For the purpose of this plan, protective actions are considered in two aspects.

1. Selected objects and material may be protected from contamination by covering them before the "cloud" arrives. For example, to avoid the contamination of food obtained from livestock, all livestock feed should be covered. Machinery that cannot be decontaminated economically should be covered. Windows and doors of homes should be closed and sealed. Livestock should be put into the best-covered space. Providing cover against contamination may require time needed for other actions, such as, evacuation. Thus, under some circumstances, it may not be feasible. Closing the intake from a contaminated reservoir to a municipal distribution system has the same effect as covering. This is a no cost action that requires little planning and does not require public participation. It requires coordination with essential water consumers (fire services) and a public information announcement.

2. Shelter from Radiation

   The average home offers significant protection, especially if the ventilation system is shut off. Shelter, to be used effectively, requires professional evaluation and planning. If available, it offers an alternative to evacuation.

3. Evacuation

   Evacuation is a major countermeasure to prevent or reduce exposure and contamination. It is a complex operation possibly involving several governmental departments. Its effectiveness is considerably enhanced by detailed planning. Support evacuation will be in accordance with the Emergency Operation Plan.

4. Respirators

   Most respirators with proper filtration cartridges and a good seal around the face are effective in preventing the inhalation of airborne radioactive particles. These are most applicable to emergency workers operating in the contaminated areas. Self-contained breathing apparatus are preferable. Respirators provide no protection from gamma radiation.

5. Protective Clothing

   Protective clothing is worn to prevent contamination of the skin. Its principal value is to reduce or eliminate the need for skin decontamination, but offers

no protection from gamma radiation.

6. Import Clean Food and Water

The radiation and contamination levels may be low enough to meet occupancy standards, but not low enough for contaminated food and water in the area to meet ingestion standards. Such food and water should be tested in a laboratory to determine if they meet ingestion standards. Meanwhile, food and water would be imported until local supplies are determined to be safe from contamination. Uncontaminated foods such as those stored in sealed containers, refrigerators, freezers, etc., could be used.

E. Restorative Actions

Recovery and restorative actions are those necessary to allow re-entry into an area or release of items for use after having been contaminated. Some of these actions are:

1. Decontamination

Decontamination is the removal of radioactive material from surfaces. It is a corrective action to reduce the likelihood of ingestion and beta skin exposure, and to a lesser degree, whole body radiation exposure. Decontamination is a relatively expensive action that is performed under professional supervision. Allowing radioactive material to decay is an alternative to decontamination.

2. Special Chemical Treatment

Special chemical treatment is a form of decontamination applied to water, milk or other contaminated substances from which the radioactive chemicals can be removed. It is used to recover resources which would otherwise require disposal, or which would, if ingested, subject the population to internal contamination.

V. ADMINISTRATIVE SUPPORT

Administrative support will be developed locally.